

DISCUSSION

Upon entry of the present amendment, claims 1-20 are pending, of which, Claims 1, 5 and 6 are independent. No claims have been canceled or added by the present amendment.

The above-identified Office Action has been reviewed, the references carefully considered, and the Examiner's comments carefully weighed. In view thereof, the present Amendment is submitted. It is respectfully submitted that by the present amendment, all bases of rejection set forth in the Office Action have been traversed and overcome. Accordingly, reconsideration and withdrawal of the rejection is respectfully requested.

Amendments Presented

Claims 1, 5, and 6 are amended above to further clarify the elongate, bar-shaped nature of the light guide according to the invention, including the relative dispositions and interactions of the end face, the light-emitting face and the internal side faces of the guide. Also, in claims 1, 5, 6 the term "concentrating position" has been changed to --- focusing position--- and "concentrate" has been changed to ---focus--- because the term "focus" is believed to be a better translation of the original Japanese text from priority application 2003-181631.

Paragraphs [0005], [0018] have been amended to provide an express antecedent basis for some of the amended language in the claims.

Applicant respectfully submits that all of the above amendments are fully supported by the original application, including the drawings and the specification. For example, the discussion in the original specification of the light guide outputting light in a "line shape" and as

having a cross sectional shape as depicted in the drawings clearly shows the elongate, bar-shaped nature of the light guide. Applicant also respectfully submits that the above amendments do not introduce any new matter into the application.

Objections

At page 2 of the Office Action, the Examiner objects to claims 1, 5, 6 for two reasons, i.e., he suggests that the term “from” at line 3 of claim 1 should be changed to --- to ---), and he does not understand how the emitting face (3, 4 or 73) of the light guide extends longitudinally of the guide.

Applicant’s Response

Upon careful consideration of the objections, applicant respectfully traverses the same because the existing language accurately reflects the invention, whereas the one change suggested by the Examiner would be inaccurate, i.e., light is emitted from the light-emitting surface, but is not emitted to the light-emitting surface. Further, it is believed that the above amendments to the independent claims clarify the elongate, bar-shaped nature of the light guide, as well as interactions among the several surfaces thereof, such that persons skilled in the art would clearly understand the claimed subject matter.

In this regard, while the present application does not include a perspective view of the light guide, US Patent Publication No. 2001/0035986 cited by the Examiner (and owned by the assignee of the present application) also discloses an elongate bar-shaped light guide 3. From

Fig. 1 of the patent publication, it can be seen that the elongate light guide has longitudinal end faces, and light incident thereon (from light sources 4) is introduced into the light guide, reflected by internal side surfaces of the guide, and is emitted in a line shape from a light-emitting surface 3a extending in a longitudinal direction of the guide. While the light guide the presently claimed invention has additional features not disclosed or suggested by Ikeda, the basic structure of the guide is similar to that of Ikeda and, again, persons skilled in the art would recognize that the claim language is accurate.

Based on the foregoing, it is respectfully requested that the Examiner's objections to the claim language be reconsidered and withdrawn.

Claim Rejections – 35 USC § 102

Claims 1-3, 5-7, 9 11 and 13-20 stand rejected under 35 USC § 102(b) as anticipated by Fujimoto et al. The Office Action states that Fujimoto discloses a light guide that concentrates the reflected light at different distances from the curved surfaces of the light guide, with particular reference to Fig. 31 of Fujimoto.

Applicant's Response

Upon careful consideration and in light of the above amendments to claims 1, 5, 6, applicant respectfully traverses the rejection and respectfully submits that the claimed invention is patentably distinct over the image reading apparatus of Fujimoto et al. because Fujimoto fails to disclose (or suggest) important features of the amended claims.

For example, the light sources 2 in Fujimoto's apparatus are disposed in a recess formed in a flat, longitudinally-extending bottom surface 10B''' of the guide 10''' disposed opposite to a light emitting surface 10A'', while end faces at longitudinal ends of the guide are completely covered by ends of the casing 4. Hence, the emitting face of the guide does not emit light which is incident on the longitudinal end face of the guide.

Further, the *curvature* of the two side faces 10C''', 10D''' of the guide is *the same*, contrary to features defined at the final clauses of claims 1, 5, 6, e.g., the curved surfaces of the oval arc curves or paraboloid curves *have differently shaped areas* such that light emitted after being reflected by the two curved surfaces *focus at different distances from the curved surfaces*. Fig. 31 of Fujimoto, as referenced by the Examiner, shows reflecting surfaces having two parabolas, but as shown both parabolas are part of a single oval figure and light reflected from the parabolas does not form different focuses. Applicant respectfully submits this distinction is important because it shows that Fujimoto's apparatus is fundamentally distinct from the present invention, and that he does not address or overcome the problems which are addressed and overcome by the present invention.

The Examiner also references column 13, lines 29-64 of Fujimoto in support of the position that the curved sides of the surface concentrate the light at different distances from the curved surfaces as set forth in independent claims 1, 5 and 6. Applicant respectfully submits that what Fujimoto actually discloses, at his column 13, line 53, is that "... like any other ellipse, the

ellipse defined by the first and second surface has two focuses F1 and F2”, but this does not meet the claimed feature. The focus F1 corresponds to the disposition of the light source 2, but light emitted from the light source 2 is only concentrated at focal point F2 as shown in figure 31. This is contrary to the claims which require the curved surfaces to respectively concentrate the light at different distances from the curved surfaces.

Further, applicant submits that Fujimoto fails to disclose (or suggest) other features defined in the claims, including : the feature defined in claim 5 that “...a difference in focal distance between the oval arc curves causes the concentrating positions of reflected lights to be *different* (emphasis added)”; the feature of dependent claim 3 that the light guide includes two substantially half pieces connected together; a light-emitting face having portions at different distances from the bottom face as defined in claims 17-20; etc. It is respectfully submitted that the flat top surface 10A the light guide 10” of Fujimoto’s Fig. 31 is equidistant from the flat bottom surface 10B and no portions of the surface 10A is at a different distance from the surface 10 B as claimed.

Applicant notes that “[a] claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference.” *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). Based on the reasons put forth above, Applicant submits that Fujimoto et al. does not disclose/anticipate each and every aspect of the claimed invention.

The above discussed distinctions over Fujimoto's light guide are further emphasized by the above amendments to claims 1, 5, 6.

Based on the foregoing, the rejection based on Fujimoto et al is believed to be overcome, and it is respectfully requested that the rejection be reconsidered and withdrawn.

Claim Rejections – 35 USC § 103

In item 15 of the Office Action the Examiner has rejected claims 4, 8, 10 and 12 under § 103(a) as obvious over Fujimoto et al in view of Ikeda (Makoto) (US 2001/0035986). The Office Action asserts that it would have been obvious for one skilled in the art at the time of the invention to combine the light-scattering pattern 41b as taught by Ikeda with the light guide 10 as disclosed by Fujimoto to make the claimed invention obvious.

Applicant's Response

Upon careful consideration and (again) in light of the above amendments to claims 1, 5, 6, applicant respectfully traverses the rejection and respectfully submits that the claimed invention is patentably distinct over the applied references based on the foregoing reasons discussed in relation to claim 1 (which are not overcome by Ikeda), and because the proposed modification of Fujimoto's light collector relative to a select feature of Ikeda is based on impermissible hindsight based on the present disclosure, rather than from any teaching, suggestion or motivation of the references themselves.

In this regard, applicant respectfully submits that the light guide of Ikeda, like that of Fujimoto, does not include or suggest features defined at the final clauses of claims 1, 5, 6, e.g., the curved surfaces of the oval arc curves or paraboloid curves *have differently shaped areas* such that light emitted after being reflected by the two curved surfaces *focus at different distances from the curved surfaces*.

Relative to the proposed modification, applicant submits that Fujimoto's guide is quite distinct from a bar-shaped light guide such as disclosed by Ikeda. For example, the recess in which the light source 2 of Fujimoto is disposed does not have any surfaces near the center of its hollow interior. Conversely, light-scattering pattern 41b disclosed by Ikeda is actually a pattern printed on a *surface* within the light guide, near the focal point of the light guide. As another example, the light source of Ikeda is disposed outside of the light guide adjacent to one longitudinal end thereof, whereas Fujimoto's light source is located in a recess in the end of the light guide. Therefore, Applicant submits that persons of ordinary skill in the art would never consider it obvious to combine the printed light-scattering pattern of Ikeda with the light guide of Fujimoto in a manner as proposed by the Examiner because these devices include incompatible structures, and because there is no surface near the focal point (near F1 in recess of the light source) of the light guide of Fujimoto on which the pattern could be printed.

Moreover, applicant respectfully submits that even if the Fujimoto and Ikeda references were hypothetically combined, any resulting combination based on the actual teachings of the

references would not achieve or make obvious the presently claimed invention because neither reference teaches or suggests required features of the claims, including those defined at the final clauses of independent claims 1, 5, 6.

For all the reasons put forth above, applicant respectfully submits that claims 4, 8, 10 and 12 are not made obvious by the applied references, whether considered singly or in any hypothetical combination. Accordingly, it is respectfully requested that the rejection under 35 USC 103(a) be reconsidered and withdrawn.

Conclusion

Applicant respectfully submits that as presently amended, all of the pending claims are believed to be allowable. It is applicant's contention that no possible reading of the references, either singly or in any reasonable combination, can be viewed as teaching applicant's claimed invention.

For all of the above mentioned reasons, applicant requests reconsideration and withdrawal of the rejections of record, and allowance of the pending claims.

The application is now believed to be in condition for allowance and a notice to this effect is earnestly solicited.

If the Examiner remains unpersuaded of the patentability of all of the pending claims, or feels that the prosecution of the present application could be expedited or advanced by a telephone discussion, he is encouraged to call applicant's undersigned representative to resolve

any issues remaining in the prosecution of the application.

Favorable consideration is respectfully requested.

Respectfully submitted,



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